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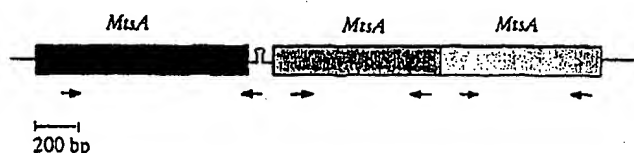


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(21) International Application Number: PCT/GB99/04445 (22) International Filing Date: 30 December 1999 (30.12.99) (30) Priority Data: 9828880.6 31 December 1998 (31.12.98) GB (71) Applicant (for all designated States except US): ACTINOVA LIMITED [GB/GB]; 5 Signet Court, Swanns Road, Cambridge CB5 8LA (GB). (72) Inventors; and (75) Inventors/Applicants (for US only): BJÖRCK, Lars [SE/SE]; Magle Stora Kyrkogata 10, S-223 50 Lund (SE). JANULCZYK, Robert [SE/SE]; Vildanden W304, S-227 34 Lund (SE). (74) Agent: WOODS, Geoffrey, Corlett; J.A. Kemp & Co., 14 South Square, Gray's Inn, London WC1R 5LX (GB).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published With international search report.	

(54) Title: STREPTOCOCCAL ABC TRANSPORTER PROTEIN



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 T T
 T = A
 A G
 G - T
 C = G
 G - T
 A = T
 C = G
 A = T
 C = G
 G = C
 A = T
 A = T
 A = T
 T - G
 A = T
 A = T
 5'-TCTAGCAAAATAGATAAC TTTATTTATGTAAAGGAGACAAAATGATTA-3'
 stop mtsA putative rbs start mtsA

(57) Abstract

A polypeptide suitable for use in vaccination against Streptococcal infections comprises: a) the amino acid sequence of SEQ ID No 1; b) a variant of (a) which is capable of binding an anti-MtsA antibody; or (c) a fragment of (a) or (b) of at least 6 amino acids in length which is capable of binding an anti-MtsA antibody. A vaccine composition comprises: a) the amino acid sequence of SEQ ID No 1; b) a variant of (a) which is capable of generating an immune response to a Streptococcus; or (c) a fragment of (a) or (b) of at least 6 amino acids in length which is capable of generating an immune response against a Streptococcus.